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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,351	07/11/2002	Jenny Kingston	08364.0037	7928

22852 7590 05/24/2004

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EXAMINER

FRANK, RODNEY T

ART UNIT PAPER NUMBER

2856

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/069,351	KINGSTON ET AL.	
	Examiner	Art Unit	
	Rodney T. Frank	2856	<i>AW</i>

-- Th MAILING DATE of this communication appears on the cover sheet with th correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 31-58, 60-78 and 80-113 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-58, 60-78 and 80-113 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                                       |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/25/02; 2/20/04</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Objections*

1. Claims 72, 73, 91, and 92 are objected to because of the following informalities: Claims 72 and 73 currently depend from claim 59, which is cancelled. Likewise, claims 91 and 92 depend from claim 79, which is currently canceled. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 31-42, 44, 45, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (U. S. Patent Number 5552,053; herein after referred to as Ho). Ho discloses a solid poly-amphiphilic polymer. The polymer may be (1) a continuous film (a) which is strengthened sufficiently by cross-linking to be used alone and/or supported on a frame, (b) overlaid and/or cast on a porous hydrophobic support or (2) introduced into the pores of a microporous hydrophobic membrane. The present invention is also a process for selectively removing a dissolved species (solute or target compound) from an aqueous solution or from a gaseous stream comprising contacting said aqueous solution or gaseous stream having the dissolved species and an aqueous stripping solution or other means for removing said species with opposite sides or surfaces. (Please see the abstract).

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4. With respect to claim 31, Ho discloses a diffusion-limiting membrane contactable in use with the aquatic environment to be monitored and adapted to allow rate-limited diffusion therethrough of the micropollutants (see column 1 lines 22-35); and separated from the aquatic environment by the said membrane, a receiving phase having a sufficiently high affinity for the micropollutants for receiving and retaining the micropollutants (see column 10 lines 42-45) wherein the receiving phase is a handleable and easily removable unitary element comprising a solid phase material immobilised by being bound in or to a hydrophobic solid support (see claim 1).

With respect to claim 32, the support is a carrier for the membrane, which does not contain nor retain water.

With respect to claim 33, the membrane comprises a solid, hydrophobic material, which is substantially non-porous.

With respect to claim 34, the use of polyethylene with the membrane is disclosed in column 2 line 15.

With respect to claims 35 and 36, the use of polysulphone/ polysulfone, polycarbonate, cellulose acetate, PTFE, and glass fiber is disclosed in column 2 in lines 9-25.

With respect to claims 37 and 38, the membrane being associated with a molecular charge sensitive material is not specifically disclosed, but it is the opinion of the examiner that in light of the materials used with the manufacture of the device in the Ho reference, then this would be a limitations that would be an obvious design choice in light of the specification of Ho.

With respect to claims 39-41, though the specific thickness of the membrane is not disclosed, column 11 lines 30-35 disclose information with regard to membrane thickness whereby

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the actual thickness of the membrane would be a design choice well within the preview of one of ordinary skill in the art.

With regard to claim 42, the membrane is not specifically disclosed to be in the form of a disk, but this is a design choice that is well within the preview of one of ordinary skill in the art.

With regard to claims 44 and 45, the support comprising a matrix of hydrophobic fibers is disclosed.

With regard to claim 49, the membrane comprises PTFE.

5. Claims 31-58, 60-71, 74-78, 80-90, 93-113 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. as applied to claims 31-42, 44, 45, and 49 above, and further in view of Markell et al. (U.S. Patent Number 5,328, 758; hereinafter referred to as Markell). Markell discloses a particle loaded, porous, fibrous compressed or fused article comprises a nonwoven fibrous polymeric web, which preferably is thermoplastic, melt-extrudable, and pressure-fusible blown microfibrous web, and sorptive particles enmeshed in said web, the particle loaded fibrous article has a Gurley number of at least two seconds, and the article is useful in separation science. A method of preparation of the article and method of use is also disclosed (please see the abstract). The motivation to combine these two references can be found in the Ho reference in that Ho states in column 10 lines 39-54 that any hydrophobic microporous material can be used with the invention disclosed by Ho. Markell discloses another type of microporous material that lends specific relevance to the present invention. For the sake of not being repetitive, the examiner will not address the claims that were previously discussed in detail here.

6. With regard to claim 43, Markell discloses in column 7 lines 1-43 the use of C<sub>8</sub> or C<sub>18</sub> hydrocarbon groups bound with a silica based polymer.

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With regard to claim 46, the use of a mesh is disclosed in column 15 line 3 of the Markell reference.

With regard to claims 47 and 48, the use of a removable body as well as a condition fluid is disclosed in view of the Markell reference and would be obvious to one of ordinary skill in the art in view of the references.

With regard to claims 50-57, the method of utilizing a device as claimed in claim 31 where the membrane is removed and then analyzed is disclosed in view of the Markell reference.

Specifically, through the various examples listed in the reference.

With regard to claim 58, this claim is essentially the same as claim 31 with the additional limitation of the membrane being able to determine a diffusion rate. As seen in table 2 of Markell, a diffusion time for the membrane can be determined.

With regard to claims 60-63, these claims are the same in scope as claims previously presented and are therefore discussed in more detail above.

With regard to claim 64, though most of the elements for this claim were discussed above, Ho does also mention the use of nylons in column 2 line 16.

With regard to claims 65-71, and 74-77, these claims are the same in scope as claims previously presented and are therefore discussed in more detail above.

With regard to claim 78, this claim is essentially the same as claim 31 with the added limitation of having the membrane pours at right angles and within a tolerance of diameters. Though these limitations are not specifically disclosed in either reference, the examiner takes the position that this is a mere design choice that would be within the preview of one of ordinary skill in the art based upon the fact that both reference indicate that the makeup of the membrane, to

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include factors of pre size and overall membrane design, should be selected in order to obtain the desired result based upon the skilled artisans knowledge of the filtering art.

With regard to claims 80-90, and 93-96, these claims are the same in scope as claims previously presented and are therefore discussed in more detail above.

With regard to claims 97-113, these claims are merely a rehash of the above claims, except, where applicable, various limitations that are discussed in previous claims are now combined into the generic base claim 31 in such a fashion as to produce a more specific claim in order to distinguish over a previous claim. It is the opinion of the examiner that since these claims have been discussed at length above, and then combining certain limitations of the dependent claims of claim 31 into claim 31 does not render the claim as patentable over the prior art since the combination of claims is already rendered obvious to one of ordinary skill in the art. Since the apparatus claims are rendered obvious then the method of using that specific device, in view of the method rejection above of the generic method of claim 50 would also be obvious to one of ordinary skill in the art as well.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 31-58, 60-78, and 80-96 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Various documents are listed in the PTO form 892, references cited by the examiner, that the examiner feels are relevant to the general state of the art of the present invention, but may not have been specifically relied upon for this rejection.

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9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).




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RTF

May 16, 2004

  
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